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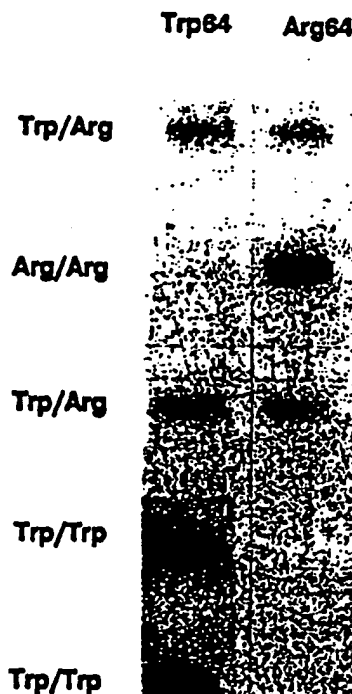
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/US96/07218 (22) International Filing Date: 17 May 1996 (17.05.96) (30) Priority Data: 08/446,530 19 May 1995 (19.05.95) US (71) Applicant: THE JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE (US/US); 720 Rutland Avenue, Baltimore, MA 21205 (US). (72) Inventors: SHULDINER, Alan, R.; 10600 Harpoon Hill, Columbia, MD 21044 (US). WALSTON, Jeremy; 126 West Lafayette Avenue, Baltimore, MD 21217 (US). SILVER, Kristi; 4 Sunny Meadow Court #202, Baltimore, MD 21209 (US). ROTH, Jesse; 4201 St. Paul Street, Baltimore, MD 21218 (US). (74) Agent: HAILE, Lisa, A.; Fish & Richardson P.C., Suite 1400, 4225 Executive Square, La Jolla, CA 92037 (US).	(81) Designated States: CA, JP, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published With international search report.	

(54) Title: SUSCEPTIBILITY GENE FOR OBESITY AND TYPE II DIABETES MELLITUS

## (57) Abstract

The present invention provides a novel polypeptide characterized by a non-conservative missense mutation, Trp64Arg, in the  $\beta$ -3-adrenergic receptor ( $\beta$ 3AR) that increases susceptibility to obesity and non-insulin dependent diabetes mellitus (NIDDM; type II diabetes). Also provided are methods of diagnosis and methods of treatment of subjects having or at risk of having type II diabetes/obesity. The figure shows allele specific oligonucleotide hybridization to detect the presence of the Trp64Arg mutation.



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